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ORIGINAL ARTICLES.

Uric Acid in the Blood as a Source of Heart Disease.

Read before the Golden Belt Medical Society at Junction City, October 5, 1893.

By GEO. HALLEY, M.D., Kansas City, Mo.

When aortic stenosis or contraction of the aortic valves occur as an accompaniment or sequelæ of acute rheumatic arthritis, we are not at a loss to account for the mitral regurgitation of blood that occurs, we are not in the least at a loss to account for the whole train of symptoms leading up to, and taking an important part in, the condition. But these cases, from a comparatively small percentage of the actual number of organic diseases of the heart, that as a physician we are called upon from day to day to prescribe for and treat. What causes have been at work leading up to this condition? Again and again we have all met with these cases. They are occurring every day in a regular practice, and it is one of the most important questions pertaining to the practice of medicine to know how to treat such cases in their incipiency, so as to anticipate the results and avert them.

As practitioners we have been so taken up with the microbic theories of disease that we have almost completely lost sight of some of the more prolific sources. Conditions that with equal certainty as a contagium vivum bares the bosom of the victim to the darts of death. It is for the purpose of calling your attention to one of these very important facts of medical etiology that I have undertaken the preparation of this paper.

The medical practitioner, who believes nature all competent to the maintenance of health and the proper performance of all the functions of life, will try in some other way to account for the terrible condition he at times finds a patient in, when with anxious countenance and gasping respiration he implores aid to relieve him from the terrible agony he is enduring. A very cursory examination will disclose to his optimistic vision the fact that he has to deal with an enormously-dilated heart; nay, perhaps, heart and aorta as well. So that he not only has to deal with the mitral, but as well with a regurgitant current.

Mr. Roberts, on his work on "Urinary and Renal Diseases," in his preliminary remarks on the general theory of Bright's disease, enumerates a number of cases leading up to it. All, however, operating through the blood and on its intrinsic quality. Dr. George Johnstone looks upon it as being nearly always caused by the action of cold on the skin, producing contraction of the peripheral vessels and preventing elimination of normal excreta through the skin, in this way throwing double work on the kidneys.

Balfour, in his work on "Clinical Diseases of the Heart," attributes the dilation that occurs very largely to debilitation of the muscular structure; such, for instance, as the anemic condition of chlorosis, lack of prudence and care in convalescing from the depressing diseases, such as typhus fever, malarial fever, etc.; or diseased conditions of the stomach, producing pronounced anemia as the result of imperfect digestion or assimilation. In short, he attributes to a very large extent the dilatation that occurs to malnutrition or defective nutrition. The remarks of Balfour, while undoubtedly true, are not all the truth. Behind and underlying all that has been

enumerated by Roberts, Johnstone and Balfour, there is the undeniable conditions of defective oxidation and ineffective elimination. Uric acid is found as one of the constituents of all urines, being formed in the healthy organism in probably a definite quantity per diem.

It is only the very recent investigations of Haag that have proved this correct. Previous investigators have either stated quantities very wide of the mark or have alleged that it was formed in large quantities at certain periods of the day, and at other times was entirely absent. From a very large number of cases, and extending over a period of eleven years, Haag found that there was formed in the human organism, either in health or disease, a definite relative proportionate quantity of uric acid to urea. After a careful examination he found this proportion to be as one is to thirty-three. He, like other observers, it is true, found that at certain times of the day a very large quantity was being eliminated, often as much as one to eighteen of urea. Then again for hours not a trace of uric acid could be found.

Roberts in his investigations speaks in somewhat similar terms with reference to this condition, and has named a time when the greatest amount of uric acid was eliminated, as the alkaline tide of the human organism. It is the period that should intervene, and generally does, between complete digestion and the ingestion of a fresh supply of food. It is the period when the blood is most highly alkaline where it is farthest removed from a neutral condition. No flow of a neutral or acid pabulum is being thrown into its current, hence the intensely alkaline condition found. I use the words "intensely alkaline," of course, in a relative or physiological sense, feeling sure my hearers will not regard it as a chemical, but a vital term. That this alkaline condition is essential to the well-being of every human organism will appear plain to every thinking mind, if there is dependent on that condition an elimination of one of the essential products of disassimilation; but someone will ask, "What has this to do with the production of heart disease or disease of the bloodvessels?" I answer, "Much in the most essential line with which we have to deal." All observers of the phenomena, incident to a low alkalinity of the blood or in converse terms to the presence of a large amount of uric acid in the blood, have spoken of the high arterial tension found. From the time of Marey, who first introduced the sphygmograph as an instrument for physical diagnosis, observers have been noting the high sharp wave, caused by the presence of increased arterial pressure of every kind. Indeed, all diseased conditions that are characterized by high arterial tension are found to be associated with an almost entire absence of elimination of uric acid or the presence of diminished alkalinity of the blood. Even before the time of the sphygmograpy, the careful physician, in making his observations for the purpose of diagnosis or prognosis, expressed himself with doubt when he found a sharp bounding pulse, giving a wiry thrill beneath the fingers. This meant to his mind precisely the story that the sphygmograph told in other language to the eye of the observer. It meant that a great strain was thrown on the heart; that it was with greater and greater energy forcing the blood through canals much contracted by some cause acting within or some powerful stimulus applied without. Some were ready to lay the blame on the inhibition unduly excited by the presence of some extraneous and malign influence that he termed disease. Another laid it to the influence of the disease itself acting directly on the peripheral vessels and necessitating a more powerful contraction of the heart in order to propel the contents, the heart simply acting more rapidly and with greater force because of the disease in the blood. George Johnstone was one of the first observers to point to the relation that existed between this heart condition and the obstruction placed in the way of the blood flow by contraction of the capillaries. Roberts took up the study at this point and carefully elaborated the principles laid down by Johnstone; while Balfour, from another standpoint entirely, speaks of it in relation to the disease

produced in the heart itself. Johnstone and Roberts were both investigators of diseases of the kidneys, while Balfour was studying disease of the heart. Sphygmographic tracings, made at various times of the day, will show in the case of any individual in health a widely dissimilar condition of the tension in the vessels.

During the period while food is still in the stomach, and as the process of digestion goes on, the inhibiting force that controls the flow of blood, thereby necessitating a greater expenditure of power by the heart to propel it through the vessels, constantly increases up to the time digestion has been completed, and then gradually declines. There is not a gentleman in the audience who does not know that digestion quickens the pulse. It is as trite a remark as that swallowing increases the frequency of the heart action or deep respiration; but I venture to say that few have looked upon it as being due to an increase of the quantity of uric acid circulating in the blood currents. In a normal state of the nutritive process this does little harm, and can hardly be said to cause a ripple on the surface of the equilibrium of the daily health. There will as surely come a time under normal conditions when there will be an alkaline tide and with it a profuse elimination of uric acid, as that there was an acid tide and a defective elimination. No sooner does the digestive process cease than the alkaline constituents of the blood once more assert themselves. The acidulous elements are destroyed and the uric acid, as it reaches the kidneys, is rapidly carried out. In this way little or no harm is done. The organism is relieved of its load, and in a short time is again ready with renewed energy to carry on the process of elimination, the blood current having been cleansed.

But it is not always that we have a relief from the burden. One meal is frequently only in process of digestion when a second, a third, fourth or even fifth burden is added to the already overloaded organism. Meal after meal is piled into the stomach, a portion of that that was there before not having been disposed of. The stomach has had no rest, and the result is a continuance of the acid tide of the organism. No alkaline tide has been admitted of, no rest having been taken. It is not only from food, however, but from drinks that are taken as well. All the alcoholic compounds used as beverages in their retrograde transformations from acidulous radicals, and either retard or entirely prevent the elimination of uric acid by diminishing the alkalinity of the blood; hence the daily and the repetition many times of the day of the supply of an acid-producing substance in the digestive tract that will tend constantly to produce and keep up a low grade of alkalinity in the blood current, and so cause the retention of uric acid. A gentleman of my acquaintance, a congressman, a short time ago consulted me with reference to a condition of his urine that was somewhat alarming to him. He wanted to know why he constantly had brick-dust sediment in his urine while at home, where he was a total abstainer; but when he was in Washington, and "drank like a gentleman," it all disappeared, and the urine became clear as possible. The explanation was very simple. The alkaline tide was largely without interference while a total abstainer, but when he kept up a constantly acid tide of the stomach there was no alkaline tide admitted of, and no period when uric acid could be eliminated. It was retained in the blood to produce its toxic effects in due time, or stored away in the tissues to produce aches and pains that we are so frequently called upon to prescribe for. But a vicious circle is soon formed if this condition is persisted in. The constant presence of uric acid in the blood produces powerful inhibition of the capillaries, the demands of the tissues demand greater energy on the part of the heart. The heart does more and more work; not only acting faster, but with greater power. The wall of the vessels wear more rapidly on account of the strain upon them, the tension not being mechanical, but vital, and consequently meaning a destruction of tissue and greater metamorphosis with diminished elimination, which completes the sad picture which is but the beginning of a disastrous end — in detail.

The vessels being constantly in a state of tension are poorly nourished, the heart, as part of the circulatory system, suffers more than any other; being the great circulatory organ, the greatest of all demands are made upon it. It is no wonder, then, that being starved and overworked it soon begins to give down until its valves cease to be sufficient to close its apertures. It has not only the same work to do, but the additional work of the blood it has once thrown out, returning to be thrown out again. It is overwhelmed with its work. Its walls yield more and more, and like the stricken foe its yielding but gives vantage ground to its enemy. We have thus a complete picture of mitral insufficiency with aortic regurgitation and dilated heart and vessels.

IZAL has been mentioned lately as a new disinfectant, being remarkably effective, non-irritant and non-poisonous. The substance is a by-product obtained at the Thorncliffe iron works and collieries (of Sheffield, England) in the process of coke formation, and was long known as the "Thorncliffe Disinfectant." It has been taken up now for general introduction, and is being extensively advertised in England under the trade-marked name "Izal." We have not yet seen the preparation in this market; but having the endorsement of the *Lancet* and other medical journals, advertising it gratuitously, a demand will no doubt soon ensue. We even hear that the promoters contemplate invading this country with their advertising shortly.—*Notes on New Remedies.*

THE hypodermic treatment of syphilis is becoming more and more popular. Results are more rapidly reached, and without the annoying complications often produced by drugs. The soluble forms of mercury are usually employed.

WHAT is good for a bald head?—Hair.

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Topeka, Kansas, Saturday, January 13, 1894.

A New Rule.

"It is a poor rule that wont work both ways." We have to pay for our paper, our printing and our postage, and we feel that we ought to get a few dollars in return for the reading matter we furnish you. Every subscriber to the JOURNAL has already or will in a few days receive a statement of his account for subscription. We have some thousands of dollars outstanding.

Many of our subscribers pay promptly, others don't pay at all.

Many of them pay no attention to the kind little notices we send out.

We are making you an excellent offer for 1894. Where can you get a weekly for $1? We do this in order to collect our back subscriptions and increase our circulation. But we don't propose to send the JOURNAL to delinquents for that price. If you want to take advantage of our offer, send in your sub-

scriptions. If there is any error in the statement, write to us regarding it, and we will gladly correct it. We want everybody to be satisfied, even ourselves.

IN these days of investigation and search for the cause of disease there is one frequent error to be borne in mind and avoided. It requires a little more care and caution, but the gain in scientific accuracy warrants it. Reference is had to instances in which a certain effect is always attributed to a certain cause. The gynecologist, accustomed to find backache as a sequence of an enlarged and retroverted uterus, is too hasty in claiming this as the cause when the two are associated, whereas relief of this retroversion and a reduction in size of the uterus may leave the backache as severe as ever. Relief of the symptoms by a cure of the pathological condition is the only positive proof of a causal condition. So, too, in cases of headache the discovery of a refractive error is frequently assigned as the efficient cause when its correction failing to give relief, a more accurate and careful diagnosis is made. The frequent concomitant occurrence of backaches and displaced uteri, of headaches and refractive errors, and of many another pathological condition and subjective symptom of disease must be borne in mind in the interests of exactitude.

THE eye with all its wonderful mechanism and power of adaptation is not a mere machine; but a part of the body, and as such requires exercise, rest, nourishment and proper care as much as any single muscle. Nay, more; by virtue of its higher organization it requires more care and suffers more severely by abuse than the single muscle. It is hard to convince some people that even with properly correcting glasses and all the art of the oculist, the eyes will not and ought not at all ages to stand as great and as long-continued strain by daylight and artificial light as our modern civilization so frequently demands.

Rales.

In the application of accurate methods of diagnosis it is of the utmost importance that we fully understand the mechanism of the physical signs which we ascribe to certain pathological conditions.

Rales are divided into classes according as they are produced by thickenings of mucous linings of the bronchial tubes or by accumulations of mucous or other liquids within the same or in cavities; and according to the size of the bronchi or cavities in which they are produced.

The crepitant rale is usually, however, accorded sufficient dignity to be classed alone. The mechanism of the moist, dry, large and small rales is easily explained and easily understood, and we believe there is little difference of opinion upon this.

The crepitant rale is again brought into prominence by the variety of explanations given it by different authors. Some of these have a sufficient appearance of possibility to be accepted without much question, while others are entirely inconsistent with established physiological laws.

For instance, it is generally explained that a crepitant rale is the result of an inflammatory exudation in the smaller alveoli or air cells, glueing together the walls of the same, and the sound we recognize as crepitation is produced by the forcible opening of the same by the inspired air. This theory is substantiated by the fact that crepitant rale is only heard on inspiration. It is an ingenious explanation, but how far does it accord with the physiology of respiration? In the first place the air cells and alveoli are considered by physiologists to be continually filled and distended by air. By what process, then, have they become collapsed to be so readily inflated again by every inspiration?

Secondly, it is generally understood that the tidal air does not penetrate further than the fourth division of the bronchial tubes, and the quantity of tidal air is about one-tenth of the air in the lungs. We can hardly suppose, basing our opinion upon

these physiological laws, that the walls of the air cells are glued together by the exudate, nor that they are forcibly separated again by the inspired air.

As we have already said, it is a generally-accepted fact that the air cells are continually distended, and this tension is only slightly increased by the pressure of the tidal air, which adds only one-tenth to the quantity remaining in the lungs.

The walls of the air cells are very delicate, but like other membranes, when put upon the stretch and set into vibration, produce a sound. The sound of a single cell must be very imperceptible, but when multiplied by hundreds of such sounds becomes quite distinguishable, and is what we recognize as the true respiratory murmur, not the respiratory and expiratory sounds, which are simple transmissions of bronchial breathing, but the continuous swelling, monotonous sound like the distant roaring of the sea. This is the sound of a healthy lung and produced by healthy tissue. Change the thickness of these vesicle walls, stiffen them by inflammatory exudation, and the increased tension and vibration, caused by the tidal wave in the distant bronchi, produces a sound quite distinct in pitch and quality from the normal, and we recognize it as crepitation. The inflammation extends, the exudation is increated around and within the vesicle so that its mobility and power of distension and vibration is lost and the rale disappears, as does also the respiratory murmur, though the transmission of the bronchial sound may be increased.

Chloroform.

The January *Century* contains an article upon the "Introduction of Chloroform," by the daughter of Jas. Y. Simpson, who first used the pure drug for anæsthetic purposes. While the article is mostly made up of personal reminiscences, there are many interesting facts revealed in reference to the opposition met with and the various attempts to steal the honor of discovery.

Diphtheria.

Recent investigators have concluded that the pseudo-membranous inflammations of microbic origin, to which the term diphtheria has been applied, really consists of two diseases—true diphtheria and pseudo-diphtheria or diphtheroid, the former caused by the Klebs-Loeffler bacillus and the latter by the streptococcus.

The disease produced by the Klebs-Loeffler bacillus seems to be more severe and fatal than the other form. Paralysis is common after the true diphtheria, but is not liable to occur as a complication or sequel of the inflammation, caused by cocci. Both are accompanied by fever, tumefaction of the lymphatic glands and prostration.

The spread of diphtheria is accounted for in various ways. In cities where diphtheria is epidemic the sewers become infected by the bacillus; and sewer gas, escaping into apartments and inhaled by children, causes the disease in many instances. There are always mild cases during an epidemic, and some of these by lack of proper restriction may disseminate the disease among their playmates or schoolfellows. Numerous instances can be sighted to show the beginning of an epidemic in a leaky sewer pipe or defective drain. During the winter of 1884-5, in the city of Chicago, an excavation was made in the western portion of the city for the purpose of altering the water and sewer pipes, and within a few weeks of the beginning of this work diphtheria, scarlet fever and typhoid fever were raging in that neighborhood, and many lives were lost.

Many cases of diphtheria may be ascribed to defective drainage. In country districts, where there is no sewerage system, the vaults and wells, both public and private, may become infected by the bacillus, and children coming in contact with the germ-ladened atmosphere of the school-house privy or drinking the water from the public well, contract the disease.

As to the treatment of diphtheria, nothing can be recommended as specific. Suc-

cessful methods of treatment are numerous on paper, but all yield their porportion of disappointments in actual practice.

It is claimed that when the membrane begins to form, the application of the galvano-cautery destroys the microbe and focus of infection, and excites a regenerative process. It is only of benefit before systematic infection has occurred.

The local application of crude petroleum every two hours is highly recommended.

Ozegowski claims to have cured all his cases during the past ten years as follows: He brushes, every two hours, the whitish spots with the following solution:

℞

Acidi carbolici.....
Acidi citrici.....
Tinct. iodi..... ..aa..3 to 5 grams.
Spiriti vivi gallici.....100 grams.

Peroxide of hydrogen has been used a great deal in this country, and the results so far are certainly very favorable to its further use.

Those who have used it most, and are best able to judge of its merits, are very energetic in their praise of calomel. It may be administered in the sublimated form by the action of heat or it may be used by insufflation.

It is also given in small doses, frequently repeated, until a marked effect is shown by the character of the stools.

Exercise, Foot-ball, Etc.

At the meeting of the Topeka Academy of Medicine and Surgery last Monday evening, Dr. W. L. Schenck presented a paper upon the "Relation of Exercise to Physical and Spiritual Development," in which he showed the effect of judicious exercise upon the development of mental and moral forces, the necessity of healthy activity of body and mind for higher spiritual development. The doctor discussed the effect of the present foot-ball craze among our colleges and universities upon the intellectual and spiritual status of our youth, and in no uncertain terms placed it among the evil sports.

A Suggestion.

The prevalence of scarlet fever and diphtheria in Topeka is becoming a matter for serious consideration. The city health officer has recommended the flushing of sewers and gutters twice a week. This is a wise action and we trust will result in a decrease of the maladies.

The disease so far is, we believe, mostly among school children, and we would simply suggest that the health board investigate a little more carefully the sewerage system in some of our school buildings.

At the Clay school, which is one of the largest in the city, there are two out-buildings which are used for closets; neither of these have any connection with the sewer. One of these buildings is a brick structure, which is probably as old as the school, and has a very large vault. This vault has an opening into the alley which is usually covered by boards and a little dirt. We say usually is because sometime the boards are dragged off by a wagon wheel, and it then remains open for some time, and the neighborhood is treated to a rather pungent and odoriferous atmosphere. The other building is a frame structure, and the deposits are collected in large wooden drawers which are occasionally emptied. These drawers are not water tight, and the urine, with as much of the solid excrement as it is possible for it to dissolve, drains readily into the alley, and the ground in the rear of this building is continually saturated by this matter from the beginning of the school term to its close.

A great many of the school children select the alley as a shorter and more convenient route to the school building, and are regaled with the odor of their own and other excretions. The vault in the brick building has been cleaned very rarely, and we cannot help but feel that here may be a possible source of infection that merits the attention of our health officer. It seems to us sanitary inspection, adopted for the protection of children against infectious diseases, should be commenced at the places where children congregate.

Apex Catarrh.

A paper upon this subject, by Horace S. Straight, A.M., M.D., of Cleveland, Ohio, appears in the *Medical Record.*

The author says his attention has been frequently called to this disease since the grippe. He says: "The disease may originate in two ways. The patient often comes under observation when suffering from an acute cold. His history in the majority of cases discloses the fact that even before taking the acute cold he had not felt well, and his appetite had not been as good as usual; that he had felt tired mornings, and also had tired easily upon exertion. My opinion is that the patient was in a lowered constitutional condition, and that his acute cold was contracted because of his lowered vitality; that there was a catarrhal condition of his capillary bronchial tubes at the apex before the onset of the cold which brings him to the doctor. Another class of cases develop in connection with an acute cold." He says it is reasonable to suppose the mucous membrane of the capillary bronchial tubes may be involved in a simple, acute catarrhal inflammation. He says in marked cases the air cells are also involved, and the inflammation may spread to the pleura. "A small number of cases that have the same physical signs as an apex catarrh are tubercular from the beginning. . . . That an apex catarrh may become a localized tuberculosis or an incipient phthisis is a reasonable conclusion." He says on account of the lack of expectoration it is not often possible in these cases to examine the sputa for bacillus, but in marked cases of apex catarrh where a microscopical examination was made no bacilli could be found. The symptoms he gives are essentially those of incipient phthisis with probably an exaggeration of the gastro-intestinal symptoms usually found therein. We can see nothing in the physical signs mentioned to differentiate from incipient phthisis. The author admits that some of these cases may be tubercular from the beginning, and that any of them may become so. The fact that we are unable to detect bacilli in the sputa does not by any means preclude the possibility of tubercular infection.

The old idea that phthisis was in the beginning a catarrhal condition has many points in its favor, and while we have no inclination to dispute the distinct bacillary origin of the disease, we think the catarrhal theory might be harmonized with specific infection, as the author suggests there may be a non-resistance of cells to the action of bacilli, produced by a catarrhal process. We all know there are quite a large number of cases of complete recovery from incipient phthisis. The fact of recovery does not detract a particle from the correctness of the diagnosis, and we think, considering all the points made by the author, there is hardly sufficient ground to class the condition he describes as a disease distinct from incipient phthisis.

THE following authentic family record is interesting as showing an addition at very rational intervals, except in one case, where it was but eight months and seventeen days. It is much regretted that the degree of development of the child James was not given, but it was sufficiently viable to be alive in 1890.

Mr. X., aged twenty-six, married a wife of sixteen December 26, 1874, and the following children were born to them: Elmer, June 17, 1876; Ella, February 14, 1878; Emory, August 24, 1882; Myrtle, December 30, 1885; James, September 16, 1886; Nettie, March 4, 1889.

The time between two deliveries is not often less than that vouched for here.

DR. T. H. HALL, formerly of Alma, is now located in St. Louis, and informs us that he is making a special study of surgery. When a man has lived in Kansas long enough to imbibe some of the enthusiasm, in other words, the "git-up-and-git" characteristic of our Kansas climate, he will usually succeed wherever he goes.

Little Things We Have Noticed Lately.

MENTHOL dissolved in vaseline, five grains to the ounce, can be sprayed into the throat and forced thence into the ear by Valsalva's method. This is a very neat and simple way of applying a medicament to the lining of the Eustachian tube, and when the tympanic cavity is inflated in this manner the result is more marked and more permanent than when inflation without spraying is practiced.

THE above spray will relieve the irritation of chronic asthma when other remedies fail to give satisfactory results.

CHRONIC inflammation of the mucous membrane of the naso-pharynx, which persists in spite of detergent and astringent sprays and washes, is sometimes relieved by touching the surface here and there with a saturated solution of chromic acid.

NOTHING is much more disagreeable the moment it is applied to the nasal mucous membrane, or much pleasanter five minutes later, than a solution of iodoform in ether, one-half dram to the ounce.

BATTERIES sometimes fail to give satisfaction because the connecting wires break off inside the insulating cover, and the connection is only made occasionally.

THE following prescription has given great comfort to some of our patients suffering with piles of great tenderness, but of short duration, and no marvelous magnitude:

℞

Plumbi iodide.....ʒ ij
Tr. iodinii co.....m xx
Pulv. galli.....grs. xx
Ext. opii.....grs. xx
Cacao butter.....ʒ ij

Misce. et. ft. supposit. No. xx.

Sig.: Apply one night and morning after replacing the hemorrhoids.

FOR infantile diarrhœa we have this summer adopted the following treatment in most cases and with happy results: Stop milk and other food, and give only Mellin's food or one of those akin to it. Give one of the following powders every hour till the stools become less offensive in odor and more natural in consistency:

℞

Salol.....gr. i
Zinci sulpho-carbolat.....gr. ss

M.

W. D. B.

Tuberculin.

At last we have found a positive and successful use for tuberculin.

The New York State Board of Health is using it to diagnose tuberculosis in cattle. They are killing animals by the hundred in which the disease has been diagnosed by means of tuberculin, and in every case the accuracy of the diagnosis is proven by the post-mortem examination.

The process used in the diagnosis is not explained to us, but we are pleased to find the source of so much disappointment at last yielding good returns, even though it be somewhat foreign to its original purpose.

Tuberculosis is found to exist very extensively in dairy herds of both thoroughbreds and common cows, and it is certainly of great moment to us in the protection of life and health to find a means of accurate diagnosis.

Two drops of beechwood creasote, given with a little water, are said to be a specific for hiccough, arising from drunkenness.

FOR hiccough in babies a little sugar placed upon the tongue is frequently found sufficient.

ANSWER to correspondent: No, cacao butter is not the product of a creamery.

Formula for "Petroleum" Emulsion.

The following is S. A. McDonnel's formula, and is copied from the *Pacific Druggist*, 1892:

Vaseline oil.....16 fl. oz.
Po. acacia.....8 oz.
Glycerin.....4 fl. oz.
Calc. hypophosph.....
Sod. hypophosph...aa..286 grs.
Water, sufficient to make 3 pt.

Triturate the oil with acacia in a large mortar, and add one pint of water all at once, triturating rapidly till emulsified. Dissolve the hypophosphites in one-half pint water, and add this. Then add the glycerin and sufficient water to make three pints.

I have tried the above, and find it keeps better than an Irish moss emulsion. Instead of vaseline oil I employed liquid blancoline; petroleum liquid can be used as well.—FRED. A. SIEKER in *Notes on New Remedies*.

Operative Procedures for Carcinomatous Tumors of the Breast.

This paper was read by Dr. J. McFadden Gaston at the recent meeting of the Southern Surgical and Gynecological Association (*Medical Record*). He said a point of great moment, as to the extent of operative procedure, pertains to the leaving of any portion of the mammary gland when only partially implicated in the carcinomatous growth. The æsthetic element should never enter into the decision of such a vital question as the arrest of carcinoma, and whenever a breast is the seat of a malignant tumor, whether wholly or partially involved, there should be no hesitation about removing the entire glandular structure. If a part of the mammary gland only seems to be involved, and it is evident the knife can be carried outside of the neoplasm into the apparently sound tissues of the breast, there is every reason to believe that if any portion of the gland is left it may become the seat of disease, and that recurrence will most likely follow the operation. On the other hand, an entire ablation offers better prospects of success.

The relative advantages of the knife and cauteries in the management of carcinoma depend very much upon the progress of the disease. In the incipiency of the local trouble there can be no doubt in regard to the excision being preferable to cauterization, but after full development of a tumor with a tendency to degeneration and breaking down of its structures, the resort to escharotics has its advantages in extending to the remote ramifiactions of the disease. It is a prevalent impression that certain caustic applications attack diseased structure without affecting the sound tissues, and that so-called roots of a cancer are thus destroyed. There seems to be some just foundation for this belief in regard to applications of arsenic, but the destructive effect of caustic potash in the form of Vienna paste extends to every vital structure with which it comes in contact, and the same holds in reference to the plaster of sulphuric acid and charcoal as an escharotic.

Dr. Gaston said the treatment of carcinomatous tumors of the breast with caustics has been tested fully by Bougard, of Belgium. His paste contains chloride of zinc, arsenic, cinnabar and corrosive sublimate. Of one hundred and sixty cases, sixty-two, or nearly forty per cent., were free from recurrences three years after treatment.—*Medical Progress*.

Influence of Iodoform Upon Pus Germs.

Recent experiments by Maurel (*Bulletin Generale de Therapeutique*) show that virulent pus germs will destroy leucocytes in two hours under conditions in which the cells would live from twelve to twenty-four hours. The death of the leucocytes he finds to be due to toxines contained within the bodies of the microbes, and not to toxic products thrown off by germs or to their mechanical action. Red corpuscles are rendered diffluent in fifteen hours, and then break up.

Another series of experiments showed

that iodoform is not toxic to the white corpuscles when added to the blood in the proportion of one part of iodoform to 400 of blood; in fact, the activity of the leucocytes was increased. There was no action whatever in the red cells. The action of iodoform upon the staphylococcus was to attenuate its virulence when added to a mixture of micrococci and leucocytes. The leucocytes survived four times as long without the iodoform, or eight hours. The leucocytes readily devour the staphylococci when iodoform is not present, but are killed by the toxic elements contained in the bodies of the leucocytes. When iodoform is added, the toxic properties of the microbes are in some way modified so that they are devoured by the leucocytes with impunity. Iodoform has no influence upon the reproductive powers of the staphylococcus. Suppuration is simply a process in which great numbers of leucocytes succumb to the action of the toxic products of certain germs. Iodoform antagonizes suppuration by increasing the activity of the leucocytes and attenuating virulence of the microbes.

Rubidium Iodide.

A substitute for potassium iodide. It has been found that this new preparation is just as effective as the iodide of potassium, but is much less prone to produce iodism or to affect weak hearts, and is also distinguished from the latter by its milder taste.

Dr. Leo Leistikow, of Hamburg, in a recent admirable report, states that in a case of syphilis, complicated with valvular disease, the heart's action was not in the least influenced by the rubidium iodide. The rubidium salts have no toxic effect upon the heart like the potassium salts. He thinks it advisable, therefore, to employ rubidium iodide in all cases where the use of potassium iodide is contra-indicated on account of its dangerous effect upon the heart. Whenever iodism follows the use of iodide potassium, the unpleasant accompanying effects may be avoided by the employment of rubidium iodide. Gastric disturbances were never observed.

The usual dose of rubidium iodide is a tablespoonful three times a day of a five-per-cent. aqueous solution.—*Med. Summary.*

The Treatment of Warts.

Professor Kaposi, of Vienna (*La Semaine Medicale*, No. 52, 1893), recommends, when the warts are solitary, removal by the knife; but when multiple, and especially on the face, he employs the applications of thuya occidentalis or fuming nitric acid. Vegetations are best treated by dusting with resorcin or salicylic acid or a plaster of ten to twenty per cent. Resorcin, if applied for a long time, acts as a caustic, and may irritate the surrounding normal skin. These same topical applications are also excellent in keratosis palmaris and plantaris, even when they are not wartlike. In multiple warts of the face he employs the following:

℞

Flowers of sulphur....gram 20 (℥v)
Glycerine .....gram 50 (℥jss)
Pure con. acetic acid ..gram 10 (℥ijss)

Apply locally to each wart.

They dry up, become bluish, and drop off. Continue this for several days. In molluscoform nævi electrolysis is the best treatment, except when the tumors are voluminous, when the galvano-cautery or caustic may be used.—*Clinique.*

Californiana.

BY WALTER DAVIDSON BIDWELL, M.D.,
OAKLAND, CALIFORNIA.

Oakland, which is the Brooklyn of San Francisco, differs materially from the latter in lay of land and also in climate. The city has a population of about fifty thousand. The streets are wide, and houses usually surrounded by lawns. Even on the main business streets four-story buildings are few

and far between, while the vast majority of dwelling houses are one story cottages with high basements under them. Cellars are comparatively rare.

The land is flat from the bay on the west and the harbor on the south back to the foothills, which form a barrier to the winds from the north and northeast. These hills are about five miles from the water's edge, and at their base as well as on their sides are located some of the finest residences.

The soil is sandy, and during the long dry summers everything becomes heavily coated with red dust.

The drainage of this level place is accomplished by retaining the sea water in a land-locked bay at high tide and allowing it to flush the sewers at the low tide, carrying the largely diluted refuge out into the bay.

By virtue of its added distance from the ocean, proximity and protection of the foothills and the currents of air caused thereby, it transpires that Oakland's climate is quite different from that of its neighbor seven miles distant.

The wind has much less velocity, there is, with an abundence of fog, much less than in San Francisco, and as a rule it hangs higher, producing rather the effect of a gray, cloudy day than that of a Scotch mist. The latter is very applicable to San Francisco fogs. In winter the thermometer goes lower and in summer higher than in San Francisco, owing largely to the less amount of moisture.

Thus it is that in going from San Francisco to Oakland there is at least a third as much change as in going from San Francisco to Los Angeles. In a business point of view Oakland amounts to very little, being little more than a bed-room for San Francisco, and the prophecies as to its future are as various as those concerning Leavenworth. A very noticeable effect of the climate of this whole district about the bay is the inactivity of the skin, which accounts for its being inimical to cases of rheumatism, kidney disease and other conditions in which an active secretion is desirable.

To sum up in a few words I should say that while it enjoys many days of divine weather, still there are enough days of fog, dust and high wind to prevent its ever being considered a health resort.

MISCELLANEOUS.

Report of a Case of Extra-Uterine Pregnancy.

Read before the South Kansas Medical Society at Wichita, Kansas, November 21, 1893,

BY DR. D. P. ST. JOHN, WICHITA, KANSAS.

On the tenth day of August last, Mrs. W. consulted me, giving this history. She is twenty-six years old; has been married three years, and has no children; she was unwell regularly on June 28th, six weeks prior to consulting me. She thought she was pregnant, and was in good health till a week before coming to the office, when she began to menstruate slightly, accompanied with some pain. I made no examination, thinking that she was threatened with miscarriage, and prescribed accordingly—a uterine sedative. The next day (August 11th) I was called to the house and found the woman in bed. There was slight uterine hemorrhage, and she complained of some pain in the lower part of the abdomen, more on the right side. While my suspicions were aroused as to her condition, yet I still thought very likely there would be a miscarriage. I prescribed an opiate. About 5 o'clock, on the morning of the 14th of August, I was called hurriedly to see her. I found her in bed, propped by pillows; her face pinched and ashen; body wet with cold perspiration; the radial pulse was barely perceptible, with heart beating 160 to the minute and temperature 97. She was perfactly conscious and suffering most excruciating pain in the lower part of the abdomen. I gave hypodermic of morphine and heart stimulants,

digitalis and whisky, and a few hours later made a careful examination.

I found the uterus pushed to the left side; a tumor or mass in the right ovarian region. Her condition indicated, of course, internal hemorrhage. I suspected tubal pregnancy with rupture and hemorrhage. I informed her husband as to her condition. Drs. Hupp and Shumway were asked to see her with me. They made a careful examination per vagina and rectum. They, too, found the uterus pushed to the left side and the mass in the right ovarian region. They agreed with me in my diagnosis.

While the woman's condition was desperate, I did not care to operate while she was in that condition and with such hygienic surroundings, hoping that she would rally. The temperature went up to 102 the evening of the 14th, but the pulse kept up to 150, and was a little stronger. I kept up the opiates and stimulants. For sixty hours the pulse remained at about 150 per minute. On the 17th she began to rally; temperature varying from 100 to 103 and pulse 85 to 90. It seemed as though the products were being absorbed. The pain left, but there was some tenderness over the right tubal or ovarian region. She sat up some in bed two weeks after I first saw her.

On August 30th I received an urgent call to see Mrs. W. The temperature was 102½ and pulse 100, and severe pain over the region of the tumor. She said she was afraid that the horrible pain of the previous attack would return, and that she would rather die than bear it, and asked that an operation be done. Fearing a recurrent hemorrhage, the following day she was taken to the St. Francis Hospital in this city.

On September 2d, kindly assisted by Drs. Fordyce, Hupp, Shumway and Ada St. John, the operation was done. After the preliminary preparations, as anæsthetizing, cleansing, etc., the abdomen was opened in the median line. On entering the peritoneal cavity, we found the sac connected with the right fallopian tube, about the size of a goose egg. The inflammatory action had been such that the omentum was adherent to the mass so that I had to push my hand through the omentum, as it was so adherent I could not remove it without tearing it. The sac was hard and tense, adherent posteriorly. The adhesions were broken up with the hand. The ovary and ruptured tube were brought out, ligated with cat-gut, close to the uterus and incised. While there no doubt had been rupture of the sac, it being so tense the rupture must have reunited. The contents of the sac was apparently a disintegrated blood clot. The lower part of the peritoneal cavity was filled with thick blood clots. About a quart was removed. Washing out the cavity with warm sterilized water till the water came out quite clear, and sponging out the retained water, the abdominal incision was closed with a drainage tube, dressed antiseptically, and the patient removed to her bed. The pulse was weak and rapid for three days, and running about 150 per minute; the temperature varying from 101 to 103.

After the fourth day the pulse came down to 90 and the temperature to 100. There was nausea and vomiting for several days, which I was unable to allay or control. On the eighth day the drainage tube was removed. On the eleventh day the stitches were removed. The wound healed nicely. One month from the time of operation the woman went home; has done her house work and is now in excellent health.

METCALE'S COCAWEIN verdankt seine ausgedehnte Verbreitung, sowie uberall geteilte Anerkennung verschiedenen Umstanden, von denen die nachstehenden die bemerkenswertesten sind.

Vor allem zunachst dem zur Herstellung verwendeten Material. Verschieden von den meisten auf dem Markte befindlichen Erzeugnissen, die im grossen und ganzen sehr wenig oder gar keinen Coca enthalten, wird Metcalf's Cocawein von frischen Cocablattern hergestellt, ein Vorzug, der von jedem Arzte gewurdigt werden sollte, dem ander medicamentosen Wirkung seines Receptes gelegen ist.—Der zur Bereitung be-

nutzte Wein ist ein vorzuglicher Traubenwein von ausgesuchtem Aroma, das seines Gleichen sucht.—Auf diese Weise vereinigt Metcalf's Cocawein nicht genug zu wurdigende Norzuge in sich. Die Thatsache, dass er die Wirkungen beider Ingredienzien in harmonischer Zusammensetzung verbindet, macht ihn zu einem Cocawein im wahren Sinne des Wortes. Er ist daher ein ausgezeichnetes Tonicum, ein sicheres Anodynum und ein willkommenes Nutriens.

Metcalf's Cocawein hat sich in Tausenden von Fallen als *ultimum refugium* bewahrt. In Zustanden allgemeiner Erschopfung, wie sie durch febrile Krankheiten hervorgerufen werden, hat dieser Wein Wunder gethan.

Fugen wir hinzu, dass dieser Wein von bewahrten Chemikern hergestellt ist, die weder Muhe noch Geld gescheut haben, um einen Artikel von bester Qualitat den Herren Aerzten im besonderen, dem Publikum im allgemeinen. zu offeriren, so durfen wir uberzeugt sein, dass "Metcalf's Coca Wine" sich taglich mehr und mehr Freunde erwerben wird. OTTO HENGST, M.D.,
Boston, Mass.

Epilepsy.

Under the continued administration of the Elixir Six Bromides it is our experience that epileptics steadily improve and become robust, and the "seizures" are soon under control. It seems to act as a specific in epilepsy, like that of quinine in ague and iron in chlorosis. A brisk cathartic should be administered once every two or three weeks, or more often if the bowels are sluggish. The point of greatest importance is that the medicine must be given without intermission for a long period, even when the health is apparently re-established, as there is a well-recognized tendency to relapse in this disease.

A SURGEON is the man who has to carve out his fortune if he gets any.—*Detroit Free Press.*

Improved Empty Capsules for the Rectum.

Messrs. H. Planten & Son, New York, the well-known Pioneer Capsule House of the United States, have recently placed on the market an improved empty capsule for medication in the rectum, of which we give herewith a sketch. The ordinary cone-shaped suppository is easily expelled, causing much annoyance to physician and patient, and this is entirely overcome by the shape of the Improved Rectum Capsule made by Messrs. Planten in accordance with the suggestions of Mr. Henry S. Welcome in his lecture before the American Pharmaceutical Association at their annual meeting in Chicago.

Planten's Improved Empty Rectum Capsules will be found in every way vastly superior to any other shape or style suppository on the market, and we suggest that you send for samples and literature to acquaint yourself with a valuable article.

Chloralamid Favorable to Digestion.

In an address by Prof. Penzolt, of Erlangen, delivered before the German Scientists' Congress at Nuremburg recently, on "The Influence of Drugs on Digestion," this distinguished authority stated that "Chloralamid was one of the few narcotic drugs which accelerated digestion, and in a pronounced degree."

A MANUFACTURER of baking powder, in trying to run down a rival's goods, says they contain alum, which all medical authorities say should not be taken into the system. We rise to ask what the alumentary canal was made for.—*Puck.*